



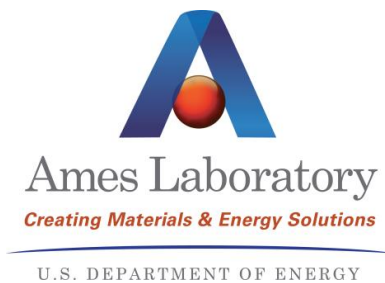
AMES
LABORATORY

SAFETY PERFORMANCE IMPROVEMENT PLAN - 2016 - 2017



Ames Laboratory
Creating Materials & Energy Solutions

U.S. DEPARTMENT OF ENERGY



Safety Performance Improvement Plan

2016 – 2017

Plan 10200.043, Revision 1

Updated 12/31/16

Note: This is the annual document control version, and may not reflect real-time completion status of tasks and actions. The Safety Performance Improvement Plan (SPIP) is a template for safety enhancement, and may change frequently as new actions are identified, resources are allocated, and tasks and goals are met. An updated copy is maintained by Environment, Safety, Health, and Assurance (ESH&A). Modifications will be incorporated during the annual review process.

The review and approval record is maintained as part of the document control process.

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Overview of Ames Laboratory

Ames Laboratory is a Department of Energy (DOE) national laboratory located on the campus of Iowa State University (ISU) in Ames, Iowa, approximately 35 miles north of Des Moines, and is operated by ISU through a management and operating (M&O) contract with the DOE Office of Science. The Laboratory's focus is on condensed matter physics and materials science, applied materials science and engineering, analytical instrumentation, and chemical and molecular science, and providing expertise to the DOE laboratory system in the areas of energy and environmental improvement.

The mission of the Laboratory is to create materials, inspire minds to solve problems, and address global challenges. Our vision is to lead the interdisciplinary science of accelerating the design, discovery, and fundamental understanding of advanced energy and chemical conversion materials through technical innovation and excellence in safety, operations, quality, and diversity.

Safety and Health Philosophy

Ames Laboratory is dedicated to protecting the safety and health of each Laboratory employee. The Laboratory is committed to preventing accidental loss of resources and assets and protecting the general public and the environment through the prevention of pollution, property loss, or damage to the environment. Therefore, it is our goal to reduce to the greatest extent possible foreseeable hazards and maintain a safe and healthful workplace by hiring competent personnel, providing necessary training, following safe work practices, and encouraging an emphasis on continuous improvement. In addition, compliance with applicable Laboratory Contract requirements, Department of Energy Orders, and regulatory standards is a prerequisite for conducting Laboratory business and is the responsibility of each employee.

To protect the safety and health our employees and the public, the Laboratory has incorporated the principles of Integrated Safety Management (ISM) and the practices of an Environmental Management System (EMS) into an Integrated Safety Management System (ISMS). Our ISMS provides mechanisms to ensure that we incorporate safety and environmental management into all aspects of our work, from planning to completion.

Every Ames Laboratory employee will participate in ISMS by complying with the Laboratory's environmental, safety and health requirements. Each level of line management has the responsibility to consider the impacts of their activities on the environment and workplace, and to support the performance and continuous improvement of effective safety and environmental practices, such as pollution prevention. This "team" effort is necessary to achieve a safe and productive research laboratory.

In January, 2016, the Environment, Safety, Health, and Assurance office (ESH&A) adopted a strategic plan to support the Laboratory's vision, mission, and safety and health philosophy. The ESH&A vision and mission is to innovate a safe, healthy, and sustainable community by partnering with scientists, staff, and students to provide quality safety and health services, education, and technical guidance through engagement and expertise. To this end ESH&A will develop and maintain resources that support our mission and align our strategies with those of the Laboratory, DOE, and our Contractor. Goals will be specific, measurable, achievable, relevant, and timely. Tactics focus on improvements in

areas such as nurturing partnerships, performance evaluation, promoting health and safety activities, and fostering teamwork within ESH&A and across the Laboratory. Other activities extend to safety improvements across the Laboratory, of which a major component is the SPIP. The remainder of this document outlines the achievements and on-going development and implementation of the SPIP.

Statement of Need for Safety Performance Improvement Plan

In 2014 and 2015 the Laboratory experienced a series of events and accidents. In addition to unplanned events, there were also a number of internal topical appraisals and external program assessments that generated findings and opportunities for improvement in the implementation of the Integrated Safety Management System (ISMS).

In January 2015, a joint team consisting of Ames Laboratory, Office of Science, and Argonne National Laboratory personnel conducted a Work Planning and Control (WP&C) assessment, which identified needed improvements to the Readiness Review (RR) process. In April 2015, the Laboratory submitted an integrated corrective action plan that addressed the findings in the joint WP&C assessment, as well as issues associated with work planning and control processes identified in other assessments. The aim of the WP&C corrective action plan was to improve the rigor and effectiveness of hazard identification, analysis, control, and implementation, as well as line management accountability.

By June 2015, improvements described in the WP&C corrective action plan had been or were being made to the RR process to increase formality, rigor, and change control. Information roll-out and training of management and staff were the next steps in implementing these changes. The occurrence of a serious ball mill explosion and the investigative team's (comprised of personnel from the DOE, Oak Ridge National Laboratory, Iowa State University, and Ames Laboratory) Judgements of Need (JON) shed light on additional corrective actions to Ames Laboratory's WP&C. For example, the Laboratory lacked a clear strategy for identifying higher risk activities, for expediting review of changes in activities with higher risks, and adequately allocating resources to expedite this enhanced Readiness Review.

The feedback from the investigative team reinforced the significance the Laboratory placed on the WP&C corrective actions and provided an initial focus in four primary areas: work planning and control; contractor assurance; engagement; and expertise and continuing education. Improvements in these areas enhanced our conduct of research and improved safety throughout the Laboratory.

SPIP implementation was actively conducted throughout 2016, and several initiatives were completed or established that continue to provide on-going improvement, including: significant peer benchmarking; changes to the readiness review procedure; safety culture engagement with supervisors and staff by the Directors during small group meetings; staff engagement through the hosting of safety month, newsletters, and a safety culture survey; and a comprehensive evaluation of SPIP implementation by a review team comprised of DOE Laboratory quality and safety personnel. The SPIP review team recommendations, along with the Laboratory strategic planning activities, constitute significant drivers for adjustments to improvement activities.

Summary of Safety Performance Improvement Plan (SPIP) initiatives

This section includes an executive level summary of Safety Performance Improvement Plan (SPIP) initiatives. Since initial development in 2015 several improvements have been completed and others are on-going. SPIP activities are reported in the Laboratory's annual Performance Evaluation Measurement Plan (PEMP), and are summarized here. More comprehensive information is detailed in the SPIP Master section beginning on page 8.

Work Planning and Control

- Revised readiness review training and completed training for all group leaders and activity supervisors
- Established a qualitative risk analysis and tiered level 2 readiness reviews into elevated, moderate, and low categories
- Improved readiness review tools for users
- Conducted benchmarking at peer DOE laboratories and completed an initial *Laboratory Safety Culture Survey*
- Work observation incorporated into readiness review approval

Contractor Assurance

- An independent peer evaluation of SPIP effectiveness was conducted in August 2016
- A formal SPIP assessment has been scheduled for August 2017 in the Ames Site Office Oversight Plan

Engagement

- Director Adam Schwartz conducted multiple all-hands and informational meetings
- Director Adam Schwartz and Deputy Director Tom Lograsso completed approximately 83% of scheduled round-table safety discussions with Group Leaders and Managers and their research groups
- Laboratory wide work observation has been identified as tactic for success in Objective 2, Goal 3 during Laboratory strategic planning (see 2.2.5)
- An Ames Laboratory Safety Hero was selected in each month of 2016 and highlighted in the ESH&A Newsletter
- Multiple training classes have been revised. The Laboratory is shifting from Cyber Train to the Iowa State University Learn@ISU training management system early in 2017
- ESH&A published a safety newsletter each month during 2016
- A safety culture survey was conducted during June 2016
- A Laboratory wide safety day was held in October 2015, followed by an entire safety month in June 2016

Expertise and Continuing Education

- Several ESH&A staff participate in regular conference calls with peer groups (Environment, Safety, and Health (ESH) Managers, Laser Safety Officers, Quality Assurance (QA) Managers, etc.)
- Staff attend educational and professional events hosted by organizations such as the American Conference of Governmental Industrial Hygienists (ACGIH), National Safety Council (NSC), and Energy Facilities Contractors Group (EFCOG).

SPIP Outcomes from 2015-2016

Since July, 2015, Ames Laboratory has improved implementation of the Integrated Safety Management System (ISMS) and strengthened our existing safety culture, with the continuing goal of protecting worker health and safety, preventing injuries and accidents, decreasing event incidence rates, and reducing potential severity if an event occurs. Ames Laboratory developed an Environment, Safety, Health, and Assurance (ESH&A) Strategic Plan and supporting documents, and completed or is completing several actions outlined in the SPIP. The SPIP defines short-term (0 – 18 months), intermediate-term (12 – 36 months), and long-term (18 – 60 months) actions needed to achieve the goals and objectives of Ames Laboratory to conduct its research mission in a safe, secure, and efficient manner.

The ESH&A strategic plan and the SPIP support Ames Laboratory's strategic vision and mission. The 2017 revision addresses improvements already completed or in progress, and includes refined objectives and tactics developed by the Strategic Planning Safety and Security Committee and the SPIP Independent Review Team. Laboratory wide efforts continue to improve safety culture, work planning and control, risk management, staff engagement, and training. The SPIP outlines steps to measure program effectiveness throughout the term of the Plan. Metrics will help drive continuous improvement as part of the Laboratory ISMS. These initiatives will strengthen existing systems and build new infrastructure for the safety needs of a growing and vibrant research facility.

Actions in support of our safety philosophy in 2016-2016 include cooperative engagement at the Contractor (Iowa State University), Director, Deputy Director, Executive Council, Division Director, Group Leader, Department Manager, staff, and student levels through training courses, active participation in Readiness Review, safety walkthroughs, and strong relationships between line management and ESH&A subject matter experts.

Ames Laboratory dedicates significant annual resources to achieve the goals stated in the policy, including allocations of funds for safety support staff, personal protective and monitoring equipment, life safety systems, continuing education, and infrastructure.

Successful outcomes from 2015 – 2016 include:

- Completed improvements to the Laboratory's Readiness Review program, including strengthened risk analysis and hazard tiering
- Conducted a Laboratory Safety Culture Survey
- Engaged Laboratory staff with safety related seminars, all-hands meetings, and newsletters
- Conducted benchmarking by visiting peer national laboratories
- Completed a mid-year peer SPIP effectiveness review

SPIP Updates for 2016-2017

Ames Laboratory is conducting comprehensive strategic planning during 2016/2017 to further integrate science, operations, and safety. As part of that planning Ames Laboratory leadership has established four main goals:

Strategic Planning Goals:

1. Initiate new and sustain current world-leading scientific and engineering programs in areas consistent with our vision and the mission of DOE
2. Develop, operate, and maintain facilities and scientific equipment that serve as national resources and ensure mission readiness
3. Conduct our work in a safe and secure manner to protect our employees and our environment
4. Foster a culture of continuous improvement and a collaborative high-performing workforce skilled in areas critical to achieving our vision

This document continues to form the basis of the Ames Laboratory SPIP as it relates to Goal 3.

Strategic Planning Goal 3

A committee consisting of research and operational staff established the following safety related Goal 3 objectives:

- Goal 3: Conduct our work in a safe and secure manner to protect our employees and our environment.
 - Objective 1: Promote a culture where safety and security are integral to all activities.
 - Objective 2: Enhance the engagement of group leaders and supervisors in safety and security, demonstrating that they lead by example and expect employees to do the same.
 - Objective 3: Ensure the risks of Laboratory activities are identified, evaluated, and managed using a graded approach to meet the mission of the Laboratory.
 - Objective 4: Ensure workforce is trained to perform their work in a safe and secure manner.

The goal, objectives, and associated tasks will be incorporated into this and subsequent versions of the SPIP as feasible. Existing SPIP activities which flow into strategic planning for Goal 3 include:

- Developing a Lab-wide work observation program
- Continue to conduct safety culture surveys and evaluate response trends

Strategic planning takes into consideration the Lab Plan, the Scientific Strategic Plan, the Site Sustainability Plan, multiple area-specific plans, contract specifications, DOE objectives, and partner goals. Safety and mission security are considered during strategic planning within the context of ISMS.

Other guiding principles include providing modern facilities and infrastructure, a safe and secure work environment, and ensuring good stewardship of our national, DOE, and Contractor resources.

Aligning and leveraging resources is critical to addressing potential changes in mission and adequately responding to unanticipated short-term needs. Timely review of operational readiness, hazard analysis, and risk management requires attention to detail and is time and effort intensive. The pace of research often outstrips the ability of the system to accommodate rapid change. Delays in procedural review may hamper innovation and lead to shortcuts and serious technical oversights. Reinforcing the need for metered and efficient, yet thorough, investigation of activities is crucial, as is providing sufficient human, mechanical, and electronic capital to complete tasks in a timely manner.

Ames Laboratory strategies include the following:

- Conduct a comprehensive 2016 Strategic Planning initiative involving multiple focus committees in areas such as safety and security, laboratory structure, communication, and continuous improvement
- Integrate strategic planning goals and objectives into the SPIP
- Integrate SPIP Independent Review Team recommended improvements
- Continue to invest in staff based on developed strategies and committee recommendations
- Focus efforts in supervisor engagement and accountability
- Acquire part-time or special assistance from the Contractor as needs are identified
- Receive assistance from DOE, Ames Site Office, Integrated Service Centers, and peer laboratories
- Continue to improve the chemical inventory and management system
- Streamline the use and storage of laboratory documents (standard operating procedures (SOPS), task specific training records, operating manuals, etc.)
- Increase employee involvement through forums, committee participation, and surveys
- Enhance Laboratory-wide training

Safety Performance Improvement Plan - Master

Safety performance improvement is an iterative and incremental process that benefits from a strategic view, and is the basis for continuous improvement in the ISMS model. Since 2015 significant progress has been achieved in the improvement of safety actions and safety awareness, and modifications to the 2017 version of the SPIP reflect this growth. Several activities with specific tasks have been completed, others are in progress or reflect on-going improvement, some have been removed due to a lack of resources or a shift in emphasis, and new activities have been added based on feedback from peers or Laboratory employees.

A new section, **Strategic Planning Goal 3**, has been added to address objectives and tactics identified by the Safety and Security Committee as priorities for the achievement of this goal.

Work Planning and Control (WPC)

WPC Short-Term Improvements

The Laboratory aggressively pursued the following short-term actions with the goal of improving the RR process; ensuring controls are commensurate with hazards and risks; and increasing awareness and training.

- Roll out the revised RR training module to Group Leaders and activity supervisors clarifying changes implemented as a result of the WP&C assessment **COMPLETED**
- Implement risk analysis methodology and develop prioritized subcategories for RR Type II activities **COMPLETED**
- Assess current RR packages of high pressure and other high hazard activities for proper hazard management, controls, and documentation to ensure safe operations **COMPLETED**
- Reevaluate previous WP&C findings and ensure priorities are properly synchronized with items identified during the ball mill investigation and other assessments **ON-GOING**
- Evaluate and adopt recommendations and guidelines for laboratory safety improvements from groups such as the Chemical Safety Board, American Chemical Society, American Industrial Hygiene Association, or others **ON-GOING**

WPC Intermediate Improvements

The Laboratory developed intermediate-term actions with the goals of strengthening training programs, providing tools which increase ease of safety implementation, and cultivating a stronger safety culture.

- Incorporate RR improvements into existing training courses as appropriate **ON-GOING**
- Develop enhanced tools for RR participants such as standardized SOPs, hazard analysis checklists, flow charts, and supportive databases **COMPLETED**
- Adapt and implement safety behavior modification initiatives based on successful programs such as DuPont STOP (Safety Training Observation Program), Cargill LIFE (Life-altering Injury and Fatality Elimination) or others **ON-GOING**
- Visit national laboratories and peer institutions to evaluate WP&C programs and conduct of research activities for best practices **COMPLETED**

WPC Long-Term Improvements

Long-term operational improvements will focus on the development of metrics to ensure program effectiveness and the establishment of more rigorous and frequent internal and external assessments, gap analyses, and implementation procedures.

- Measure program effectiveness using tools such as staff surveys, tracking and trending, and calculation of incident rates and causes **ON-GOING**
- Conduct rigorous and relevant evaluations of work processes through RR and a work observation program. The frequency of review will be commensurate with risk. Track and trend changes and observations **RR COMPONENT COMPLETE. COMPREHENSIVE WORK OBSERVATION ADDED TO STRATEGIC PLANNING GOAL 3.**

Contractor Assurance

Contractor Assurance Short-Term Improvements

ISU has the capability of providing immediate short-term assistance to Ames Laboratory, specifically in hazard analysis, risk management, operational control, and emergency response and reporting. Ames Laboratory will actively pursue opportunities to utilize the Contractor with the goal of receiving additional technical review and guidance. The Ames Site Office will also provide assistance to improve contractor assurance.

- The Laboratory Director will utilize an independent review board to provide consultation during SPIP implementation **MID-TERM PEER REVIEW COMPLETED. NEXT REVIEW SCHEDULED FOR 8/2017.**
- Develop a Contractor and peer laboratory subject matter expert (SME) matrix for areas in which safety processes need improvement and to provide broader expertise during RR **ON-GOING**
- Develop memorandums of understanding with Contractor SMEs defining roles and responsibilities **ON-GOING**
- Review emergency agreements and expectations to determine whether opportunities for improvement exist in cross-training, conducting drills, and/or increased integration **ON-GOING**
- Ames Site Office will hire and locate a Facility Representative at Ames Laboratory to improve operational awareness and oversight of the Laboratory **COMPLETED**

Contractor Assurance Intermediate and Long-Term Improvements

- The Laboratory will collaborate with ISU to assemble an external review team comprised of Contractor, DOE, and corporate experts, with the purpose of assessing the effectiveness of the SPIP and associated strategic planning **MID-TERM PEER REVIEW COMPLETED. NEXT REVIEW SCHEDULED FOR 8/2017.**

Engagement with Ames Laboratory Personnel

Engagement Short-Term Improvements

Ames Laboratory will conduct the following short-term actions with the goal of providing information to staff regarding recent events, reinforcing Laboratory safety goals and procedures, and enhancing safety culture.

- Conduct all-hands meetings with a focus on lessons learned from recent events (completed July 22-23, 2015) **COMPLETED**
- Management, Group Leaders, and ESH&A SMEs will implement a work observation program **ON-GOING** Conduct round-table discussions between the Directors, Division Leaders, and Group Leaders regarding operational improvements and cultural change, and identify Ames Laboratory personnel who can be engaged as Ambassadors to help spread the message of safety **ON-GOING**
- Continue and expand the Ames Laboratory Safety Hero Initiative, which utilizes animated videos, posters, and newsletter articles to encourage safe behavior and recognize Laboratory staff who demonstrate safe work practices **SUSPENDED DUE TO LOSS OF PERSONNEL**
- NEW - As recommended by the SPIP Review Team, reinvigorate the Safety Coordinator and Representative Program. The Laboratory will assign a new ESH&A staff member to lead program, conduct meetings as specified in the existing program plan, and collaborate with members to improve communication. **NEW 2017**

Engagement Intermediate-Term Improvements

Intermediate efforts will focus on a variety of actions with the goal of providing relevant, timely, and engaging information and activities to grow and maintain the Laboratory safety culture.

- Modify existing training courses to improve learning delivery, retention of information, and applicability to work practices **ON-GOING**
- Conduct periodic staff surveys and structured discussions to evaluate engagement and program effectiveness **INITIAL SURVEY COMPLETED 2016. ON-GOING ANNUAL SURVEYS**
- Distribute relevant safety and health information through newsletters, posters, and electronic media **ON-GOING**

Engagement Long-Term Improvements

Engagement with staff is critical to the formation of a cohesive and sustainable safety culture. Long-term success is contingent on maintaining efforts through strategic documents and allocation of resources.

- Specify engagement activities in documents such as strategic plans, Lab Plan, PEMP, executive council agendas, etc. **ON-GOING**
- Line item engagement activity resources in budget development and submittals **ON-GOING**

Expertise and Continuing Education

Expertise Short-Term Improvements

Ames Laboratory research staff and ESH&A subject matter experts are highly educated and credentialed personnel. The Laboratory will complete the following short-term actions to improve institutional knowledge with the goal of increasing expertise in hazard analysis, risk identification, and operational review.

- Ames Laboratory will develop in-house educational materials or contract with an experienced provider to refine hazard analysis training for SMEs based on American Chemical Society (ACS) guidelines and industry standards **ON-GOING**

- Enhance existing hazard identification materials to ensure uniformity of information **ON-GOING**

Expertise Intermediate Improvements

Continuing education opportunities are available through mentoring opportunities at peer laboratories, participation in webinars and conferences, and contracting vendors to conduct topical seminars. Ames Laboratory will pursue opportunities as time and resources allow with the goal of increasing subject matter expertise in a variety of safety processes.

- Visit and assess DOE Laboratory **(COMPLETED)**, peer research facility, and corporate ES&H programs **(ON-GOING)**
- Participate in conferences, webinars, and group discussions **ON-GOING**

Expertise Long-Term Improvements

Achieving advanced degrees and earning professional certifications demonstrates personal and institutional commitment to maintaining and advancing essential knowledge, and increases the ability of SMEs to assess hazards and implement corrections. Ames Laboratory will commit resources to encourage personnel to pursue continuing education with the goal of increasing subject expertise, providing additional coverage in the absence of an SME, and improving succession in critical subject areas.

- Enhance cross training efforts between ESH&A SMEs to broaden general knowledge base and to provide coverage of expertise as needed **ON-GOING**
- Encourage staff to achieve and maintain relevant advanced degrees and/or professional certifications **ON-GOING**

Strategic Planning Goal 3

Goal 3 Objective 1

Promote a culture where safety and security are integral to all activities

- Walkthrough Program. Departmental and Independent walkthroughs provide an opportunity to identify and correct potential hazards. Reductions in walkthrough findings, and prompt and effective correction of deficiencies, may be used to evaluate the effectiveness of the Laboratory's safety and security programs. The Laboratory will develop a procedure for independently verifying closeout of findings from formal annual walkthroughs, and will establish a mechanism for reducing repeat violations.
- Safety Culture Survey. The Laboratory will track and evaluate trends to safety culture surveys conducted each year from 2016 to 2020.

Goal 3 Objective 2

Enhance the engagement of group leaders and supervisors in safety and security, demonstrating that they lead by example and expect employees to do the same.

- Supervisor Training. The Laboratory will verify that group leaders and supervisors completed all of their required safety training on time. This will be verified during the annual performance appraisal process or annual review of activities.

- Group Leader/Supervisor Employee Work Observation. The Laboratory will develop a comprehensive work observation program, develop and provide educational tools for observers, train observers on preferred work observation techniques and documentation, and track and trend observations.

Goal 3 Objective 3

Ensure the risks of Laboratory activities are identified, evaluated, and managed using a graded approach to meet the mission of the Laboratory

- Evaluate Readiness Reviews for Risk. Readiness Reviews have been qualitatively evaluated for risk and categorized and Level I (High), Level II (Elevated), Level II (Moderate), Level II (Low), or Level III (Office/Administrative). The Laboratory developed a Graded Approach procedure to enhance quality assurance, and will integrate graded approach and risk/hazard evaluation techniques into training programs and other educational materials for research and operational staff. Improved awareness of risk/hazard analysis will enhance periodic readiness review evaluation and facilitate development of new activities.

Goal 3 Objective 4

Ensure workforce is trained to perform their work in a safe and secure manner

- Employee Training. Group Leaders and Supervisors will verify their staff completed required safety training on time. This will be verified during the annual performance appraisal process or annual review of activities.
- Ergonomics. To facilitate participation in the employee ergonomic program, and enhance worker protection from repetitive motion and other injuries, the Laboratory will initiate an ergonomic program communication plan.

Performance Measures

Improving safety system performance is dependent on the ability to determine the effectiveness of efforts through benchmarking, defined performance metrics, and gauging employee perceptions of program success. The SPIP will include methods for providing feedback and collecting data which will be fed back into the ISMS continuous improvement loop. Ames Laboratory will investigate available performance measurement options and reach out to peer laboratories to determine best practices.

Possible data collection opportunities, some of which are already being utilized, include:

- Tracking and trending of events, corrective actions, and employee concerns
- Walkthrough findings
- Training effectiveness through follow-up retention evaluations
- Demonstration of tasks and evaluation of proficiency
- Periodic staff surveys and knowledge assessments
- Documentation of contacts between ESH&A staff and researchers

Appendix A – Glossary

ALCATS	Ames Lab Corrective Action Tracking System
AMES	Ames Laboratory
AMSO	Ames Site Office
Contractor	Iowa State University
Corrective Action	Requirement imposed per investigation or assessment finding
DOE	United States Department of Energy
ESH&A	Ames Laboratory Environment, Safety, Health & Assurance
ISMS	Integrated Safety Management System
JHA	Job Hazard Analysis
JON	Judgement of Need – corrective action imposed per investigation
MSDS	Material Safety Data Sheet (Now SDS)
Readiness Review	Process by which Ames Laboratory conducts WP&C and ISMS
SDS	Safety Data Sheet
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SPIP	Safety Performance Improvement Plan
WO	Worker Observation
WP&C	Work Planning and Control